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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,969	10/13/2005	Anton Arnold Van Der Heiden	1458-003	1664

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EXAMINER	
BUI, PHUONG T	
ART UNIT	PAPER NUMBER
1638	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,969	VAN DER HEIDEN, ANTON ARNOLD	
	Examiner	Art Unit	
	Phuong T. Bui	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-21,23-26,29 and 31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-21,23-26,29 and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The Office acknowledges the receipt of Applicant's amendment filed August 13, 2008. Claims 12-21, 23-26, 29 and 31 are pending and are examined in the instant application.

All previous rejections not set forth below have been withdrawn. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings submitted are acceptable for examination only. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112, second paragraph

3. Claims 12, 18-21, 23-26, 29 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is rejected because the specification does not define "manipulating". This rejection is maintained for reasons of record.

Applicant traverses, stating that "manipulating" refers to producing plants which carry both double recessive *y* alleles and double recessive *cl* alleles.

Applicant's traversal has been considered but is deemed unpersuasive because the specification states "manipulation....preferably resulting in a plant...comprising two recessive *y* alleles and two recessive *cl* alleles" (sentence spanning pp. 4-5). Since "preferably" encompasses other unspecified embodiments, it is unclear what "manipulating" also encompasses. It is suggested Applicant amend the claim to define "manipulating" as having two recessive *y* and *cl* alleles.

Claim 18 lacks a proper comparative basis because it is unclear that the sucrose content of Applicant's green mature fruits are "between 1.5 times and 3.4 times higher" than green immature fruits, as wildtype red mature fruits which do not have double recessive *y* alleles and double recessive *cl* alleles would likely also have "1.5 times and 3.4 times higher" sucrose content. See also claims 23 and 29.

Clarification and/or correction are required.

Claim Rejections - 35 USC § 112, first paragraph, written description

4. Claims 18, 19, 21, 23, 24, 26, 29 and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

Applicant is invited to point to the originally filed specification where support for "3.4 times" in claim 18, "5.4 grams" in claim 19, "7.1 grams" in claim 21, "1.9 times" in claim 23, "2.1 grams" in claim 24, "2.52 grams" in claim 26, "3.4 times" and "1.9 times"

in claim 29, and "5.4 grams", "7.1 grams", "2.1 grams" and "2.52 grams" in claim 31 can be found. Absent of such support, Applicant is required to cancel the new matter in response to this Office action. If these values were obtained by calculations, the calculations should be clearly set forth to support these values.

Claim Rejections - 35 USC § 112, first paragraph, enablement

5. Claims 12, 18-21, 23-26, 29 and 31 and are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for two recessive *y* alleles and two recessive *cl* alleles, does not reasonably provide enablement for "manipulating the CL and Y loci" and the claimed sucrose and ascorbic acid levels. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. This rejection is maintained for reasons of record as applied to the nonenabling embodiments above.

Applicant traverses primarily that the specification teaches how parent plants containing the *y* and *cl* alleles can be identified,and classical breeding can be used to obtain plants that are homozygous recessive for *y* and *cl* alleles.

Applicant's traversal is persuasive with regard to claims drawn to methods which recite two recessive *y* alleles and two recessive *cl* alleles. However, the breadth of "manipulating the CL and the Y loci" is not enabled for reasons of record, and thus is maintained. Furthermore, the specification teaches 1.5x higher sucrose (p. 11) and ascorbic acid content (p. 12), not 3.4x and 1.9x, respectively, as claimed. It is unpredictable what additional manipulations are required to achieve the claimed levels,

since the homozygous recessive alleles *y* and *cl* cannot produce plants having the claimed sucrose and ascorbic acid levels. In Table 1, since the SD for Oblix is 1.6, its calculated sucrose level is 5.9, which is identical to Evergreen 7181. Thus Applicant has not enabled the claimed levels as commensurate in scope with the claims, and one skilled in the art cannot make and use the claimed invention without undue experimentation.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 12-21, 23-26, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith, PG (J. Hered., Vol. 41, No. 5, pp. 138-140 (U)) in light of Shifriss et al. (Euphytica, Vol. 60, 1992, pp. 123-126 (V)), Park et al. (Korean Journal of Plant Pathology, Vol. 5, Nol. 3, 1989, pp. 262-270 (W)) and Osuna-Garcia et al. (Journal of Agricultural and Food Chemistry, Vol. 46, Nol. 12, Dec 1998, pp. 5093-5096 (X)).

Smith teaches a method of genetic manipulation to provide a *Capsicum annuum* (pepper) plant having two recessive *y* alleles and two recessive *cl* alleles. In the F2 backcross whereby the ratio of 9 red: 3 brown: 3 yellow: 1 green was obtained, the green pepper of Smith is homozygous recessive for both *r* and *cl* alleles (p. 138, Table II, p. 140). The *r* (red) allele of Smith is the same as Applicant's *y* (yellow) allele (see specification, p. 2, lns. 1-7), and also in light of Shifriss. Shifriss teaches that the green

pepper of Smith is designated Permagreen, and is genetically recessive at *y* and *cl* alleles, *yyclcl* (p. 123). Most commercial green peppers are non-mature when picked, and thus are not as sweet as mature red peppers (see specification, p. 3, lns. 9-25). Since the pepper of Smith remains green when matured, or ripened, it inherently has a higher sugar content than the non-mature green peppers, in light of Park. Park teaches ripened peppers have higher sugar content than immature peppers (Abstract). It would appear that Applicant is using the terms "sugar" and "sucrose" interchangeably, referring to the sweetness of the fruit. With regard to the ascorbic acid level, Osuna-Garcia teaches peppers increase in ascorbic acid content as they ripen (Abstract). Since the method step of Smith is identical to that as claimed and resulted in a plant which is identical to Applicant's, the plant of Smith would necessarily contain the sucrose and ascorbic acid levels recited in the claims. Accordingly, Smith anticipated Applicant's claimed method for enhancing sucrose and ascorbic acid content in a *Capsicum* plant.

8. Claims 12-21, 23-26, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Shifriss et al. (Euphytica, Vol. 60, 1992, pp. 123-126 (V)) in light of Park et al. (Korean Journal of Plant Pathology, Vol. 5, Nol. 3, 1989, pp. 262-270 (W)) and Osuna-Garcia et al. (Journal of Agricultural and Food Chemistry, Vol. 46, Nol. 12, Dec 1998, pp. 5093-5096 (X)).

Shifriss teaches a method of manipulating the CL and Y loci resulting in a *Capsicum annuum* plant having two recessive *y* alleles and two recessive *cl* alleles (Table 2, see P-G crosses, and p. 126, col. 1, first full paragraph). Since the pepper of

Shifriss stays green when mature (ripened), it would inherently have higher sucrose and ascorbic acid content than an immature green pepper (see full explanation above). Park teaches peppers increase in sugar content as they ripen (Abstract). It would appear that Applicant is using the terms "sugar" and "sucrose" interchangeably, referring to the sweetness of the fruit. Osuna-Garcia teaches the ascorbic acid content also increases as the fruit ripens. Since the method step of Shifriss is identical to that as claimed and resulted in a plant which is identical to Applicant's, the plant of Shifriss would necessarily contain the sucrose and ascorbic acid levels recited in the claims. Accordingly, Shifriss anticipated Applicant's claimed method for enhancing sucrose and ascorbic acid content in a *Capsicum* plant.

Remarks

9. No claim is allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Bui whose telephone number is 571-272-0793.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phuong T. Bui/
Primary Examiner, Art Unit 1638
10/31/08